Fermilab Today

Tuesday, April 29, 2008

Furlough Information

New furlough information, including an up-to-date Q&A section, appears on the furlough Web pages regularly.

Layoff Information

New information on Fermilab layoffs, including an up-to-date Q&A section, appears on the layoff Web pages.

Calendar

Tuesday, April 29
3:30 p.m.
DIRECTOR'S COFFEE BREAK - 2nd Flr X-Over
THERE WILL BE NO ACCELERATOR PHYSICS AND TECHNOLOGY SEMINAR TODAY

Wednesday, April 30
3:30 p.m.
DIRECTOR'S COFFEE BREAK - 2nd Flr X-Over
4 p.m.
Fermilab Colloquium - One West
Speaker: M. Mountain, Space Telescope Science Institute
Title: The Hubble, the James Webb Space Telescope and Looking to the Future: Space Science at a Cross Road?

Click here for NALCAL, a weekly calendar with links to additional information.

Weather

Mostly Sunny
51 °/35°

Extended Forecast
Weather at Fermilab

Current Security Status

Secon Level 3

Feature

The art of computer security

Mine Altunay

Mine Altunay views computer security as an artform.

Programs evolve and hacker tricks change, making tests for security quickly out-dated. She has to anticipate the future.

“It isn’t very technical, more like art,” said Altunay, who came to Fermilab from North Carolina State University. “If you ask someone how secure their computer is, they can’t say with a 100 percent degree of confidence.”

Altunay’s way of thinking outside the box and her friendly nature serve her well as part of Fermilab’s computer security team and head of Open Science Grid’s cyber security, which focuses on networking and grid security.

“Technology and the attacks change so quickly that it is hard to keep up,” Altunay said. “If we were writing guidelines, they would be obsolete by the time we were done with them.”

For Fermilab, Altunay works to understand the laboratory’s infrastructure, particularly how it serves wide-spread collaborations. As OSG cyber security head, Altunay works as part of a DOE-sponsored initiative to figure out the best way to protect the grid.

In both roles, Altunay aims to protect the computer system, but OSG security requires a unique approach.

“On individual computers, it is easy to maintain security. You know who is using it. But on the Grid, you have no control, you don’t know if the patches are applied,” Altunay said.

To outsmart the hackers, Altunay is melding risk management with traditional security tactics.

She and colleagues at other DOE laboratories work to understand vulnerabilities in open science collaborations involving labs. They study how an attack would affect the machines

Director's Corner

Triplet crown

Pier Oddone

A crown is what the folks who have worked over the last year to get the LHC triplets ready for operations at the Large Hadron Collider deserve.

Last Friday, the first triplet in sector 5-R was brought to full power and successfully passed all tests. This is the first time that a triplet has worked at specifications (equivalent energy of 7 TeV) as a system of three magnets with all its power and cryogenics interconnections in place. We have come a long way from where we were a year ago. At that time, we were designing a repair to the Fermilab-built triplets that could be implemented in the LHC tunnel for all the triplets that had already been installed. This achievement would not have been possible without the great dedication of all those from Fermilab, Berkeley, Brookhaven, KEK and CERN who have worked on this project.

Lyn Evans who heads the LHC construction was here at Fermilab last week. We had the opportunity to discuss with him the current progress and the plans for future LHC upgrades. The current rate of progress on the LHC commissioning is dramatic. There are now six sectors either at super-fluid helium temperature or on the way. The project aims at beams in the storage ring by July and colliding beams with a total energy of 10 TeV well before the end of the year. Everyone commissioning the LHC, both accelerator and detectors, is racing excitedly towards colliding-beam operation and the great physics results that we can almost taste.

Of course, much remains to be done. Seven more triplets will come into operation in the next couple of months. The experiments must complete and close up their detectors. All the sectors must be brought down to 1.9 K. The chain of injectors has to be coupled to the storage ring in actual operations. All the controls must be in place to ensure proper functioning of the accelerator functions and safe handling of the large stored energy in the

Wilson Hall Cafe

Tuesday, April 29
- Golden broccoli & cheese
- Southern style fish sandwich
- Coconut crusted tilapia
- Spaghetti w/turkey meat sauce
- La grande sandwich
- Assorted slice pizza
- Chicken fajitas

Wilson Hall Cafe Menu

Chez Leon

Wednesday, April 30
Lunch
- Grilled vegetable salad w/ queso fresco & tortilla thread
- Chocolate bourbon pecan tart w/ice cream

Thursday, May 1
Dinner
- Sea scallops w/maple cream
- Grilled pork tenderloin w/ Madeira cream sauce
- Steamed asparagus
- Roasted garlic mashed potatoes
- Profiteroles w/strawberries

Chez Leon Menu
Call x4598 to make your reservation.

Archives

Fermilab Today

Result of the Week

Safety Tip of the Week

ILC NewsLine

Info

Fermilab Today is online at:
www.fnal.gov/today/

Send comments and suggestions to:
today@fnal.gov

and try to come up with a mathematical model of risk management and containment of attacks.

“We’re working to see if we can turn the more art-based scenario into a scientific one,” she said.

Computer security involves making sure that all computers have the necessary patches and upgrades, constantly checking for vulnerable areas and anticipating an attacker’s next move. Although no system can be completely protected, understanding and quantifying the risk and the security are very important goals. “Once we can understand what we have in our hands, then we can work against the attacks,” said Altunay.

-- Rhianna Wisniewski

In the News

Old mine promises pure scientific gold

From *Rocky Mountain News*, April 27, 2008

A former gold mine that yielded riches for more than a century is poised to spend the next half-century offering scientific prospectors a deeper understanding of the universe.

More than 350 of the world's top scientists descended on South Dakota's Black Hills this past week to discuss experiments that could be done in the former Homestake mine as it's converted into a world-class underground science laboratory.

Bob Svoboda, a University of California at Davis physicist hoping to use the mine to detect dark matter, said Homestake will be a valuable resource that won't become obsolete.

"A hole's a hole," Svoboda said. "It's one of the deepest holes, so unless you dig a deeper hole, this will be the site of the world's science experiments for probably several decades."

There's an international demand for underground lab space and a need for such a facility in the United States, physicist Kevin Lesko said.

Lesko, who's been studying ghostly particles called neutrinos for two decades, has been traveling from his office at the Lawrence Berkeley National Laboratory in California to conduct his research at either Canada's Sudbury Neutrino Observatory or Japan's Kamioka Observatory.

beams during abnormal events. It is a huge enterprise and an opportunity for the world to come together in a grand adventure of discovery. The US community has made a large commitment of material and human resources to the success of the LHC. We at Fermilab are proud to be a strong contributor to this effort.

Accelerator Update

April 25 - 28
- Three stores provided 46 hours and 32 minutes of luminosity
- Store quenched just before being established
- TeV experts worked on orbits
- Vacuum experts replace two TeV turbo stations

Read the Current Accelerator Update
Read the Early Bird Report
View the Tevatron Luminosity Charts

Announcements

Have a safe day!

Flexible Spending Accounts
To get reimbursed, you must submit 2007 Flexible Spending Account claims by April 30, 2008. Fax claims to Cigna at (570) 496-2945. Include a signed and dated claim form with your submission for reimbursement.

2008 CTEQ-MCnet School
The application deadline for the 2008 CTEQ-MCnet Summer School on QCD Phenomenology and Monte Carlo Event Generators is May 14, 2008. The school, co-sponsored by Fermilab, will be held in Debrecen, Hungary from August 8-16. The program includes lectures on QCD theory, phenomenology and analysis as well as hands-on sessions on event generator physics and techniques. Enrollment is limited to 80 participants. Applications from postdocs are particularly encouraged. More information

Scottish Country Dance Tuesday
Scottish Country Dance will meet Tuesday, April 29, at Kuhn Barn on the Fermilab site. Instruction begins at 7:30 p.m., and newcomers are always welcome. Most dances are fully taught and walked through, and you do not need to come with a partner. For more information, call (630) 840-8194 or (630) 584-0825 or folkdance@fnal.gov.

HEP job opening available
The U.S. Department of Energy, Office of Science, Office of High Energy Physics (HEP),

"I have all the lifetime miles I need," said Lesko, principal investigator for the Homestake DUSEL project. "I don't need any more."

The National Science Foundation last year picked the former Homestake mine as the preferred site for a Deep Underground Science and Engineering Laboratory 7,400 feet below the surface. In the interim, South Dakota is building the Sanford Laboratory at Homestake at the 4,850-foot level so some experiments can begin earlier.

Dick Digennaro, DUSEL project manager, said the $500 million Homestake project is unusual because it will combine both facility construction and scientific experiment planning in the proposal to the NSF.

Read more

is seeking to fill a position with a physicist who will assist the associate director for high-energy physics in the planning, coordination, implementation and evaluation of national and international research programs in this field.

This position involves strategic planning, implementation planning, multi-year program planning and annual budget-scenario exercises. This position will develop and coordinate the annual performance measurement requirements for the scientific user facilities and establish an effective database for analyzing and better articulating the accomplishments and benefits of these national resources. The salary range of this position is $115,317-$149,000.

For further information about this position and the instructions on how to apply and submit an application, please go to http://www.science.doe.gov/hep/, click on the Employment Opportunities section, and then click on the Physicist link. It is imperative that you follow the instructions as stated on the announcement (DE-SC-HQ-086(jam)). To be considered for this position, you must apply online before July 23.

Additional Activities